

**BEFORE THE  
STATE CORPORATION COMMISSION  
OF VIRGINIA**

<b>Application of</b>	)	
	)	
<b>Verizon Virginia Inc.</b>	)	<b>Case No. PUC-2007-_____</b>
<b>and</b>	)	
<b>Verizon South Inc.</b>	)	
	)	
<b>For a Determination that Retail Services Are</b>	)	
<b>Competitive and Deregulating and Detariffing</b>	)	
<b>of the Same</b>	)	

**CHARLOTTESVILLE (CHAR)  
EXHIBITS**

**PUBLIC VERSION**

## **Charlottesville (CHAR) Exhibits**

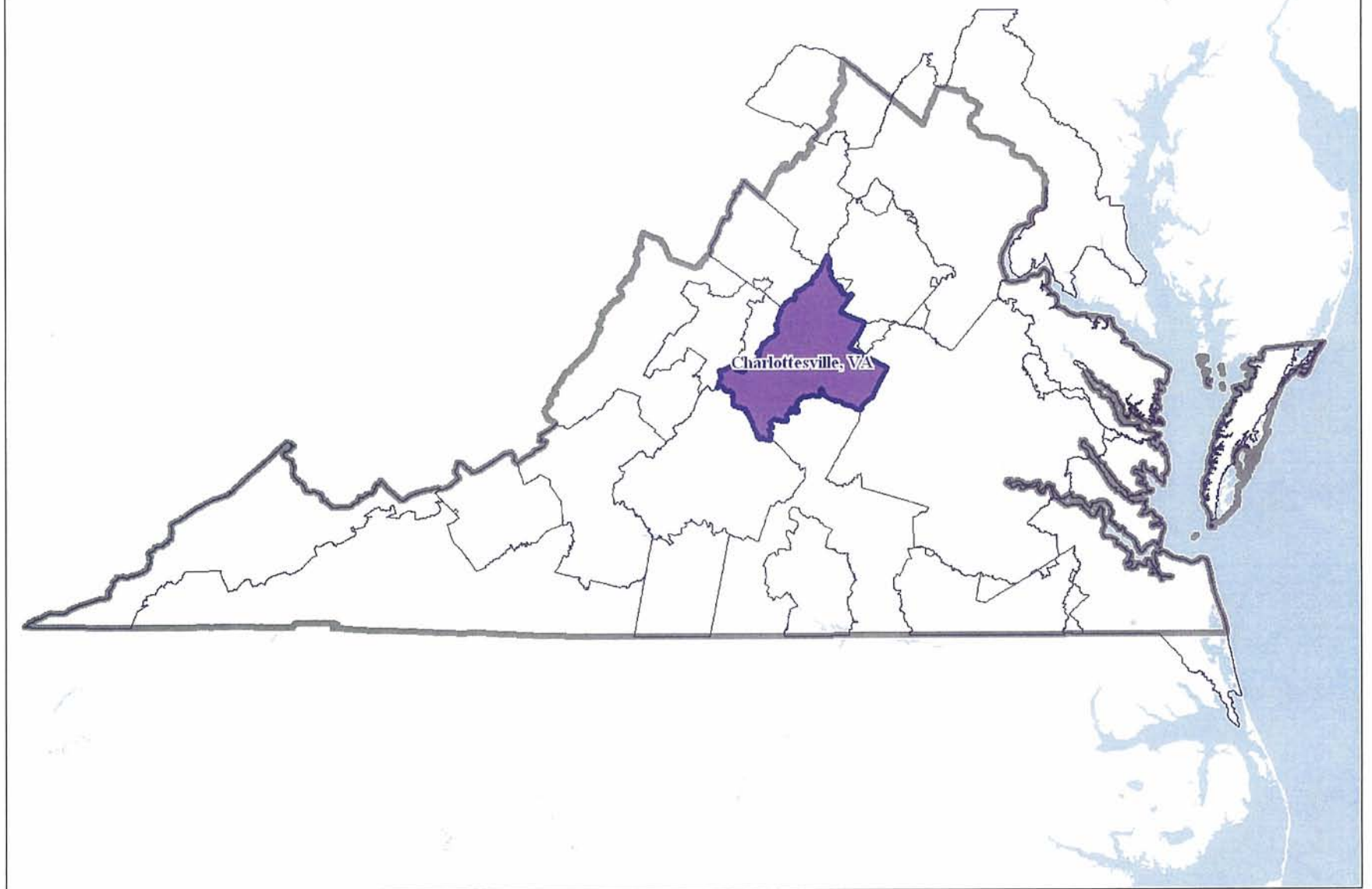
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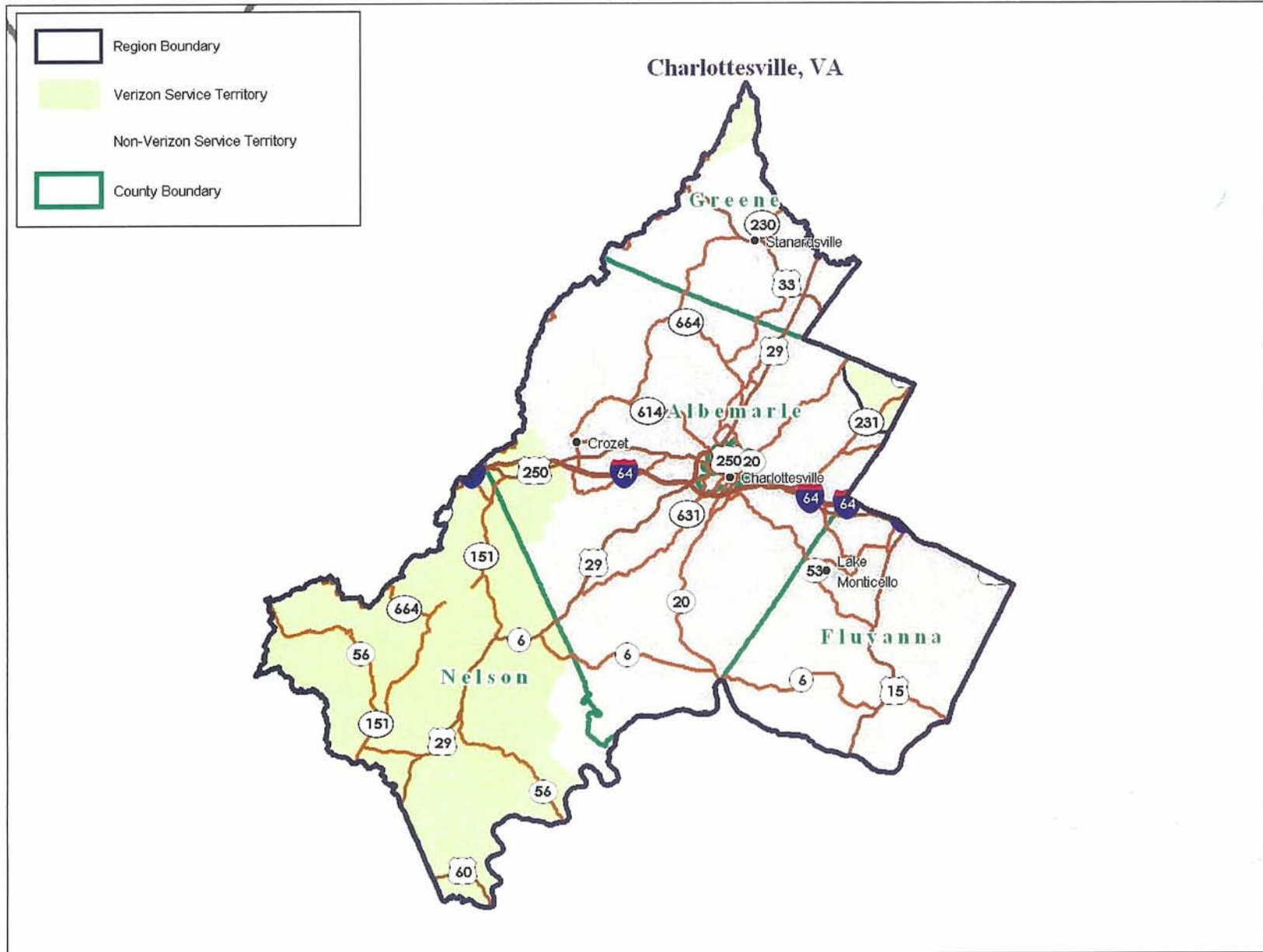
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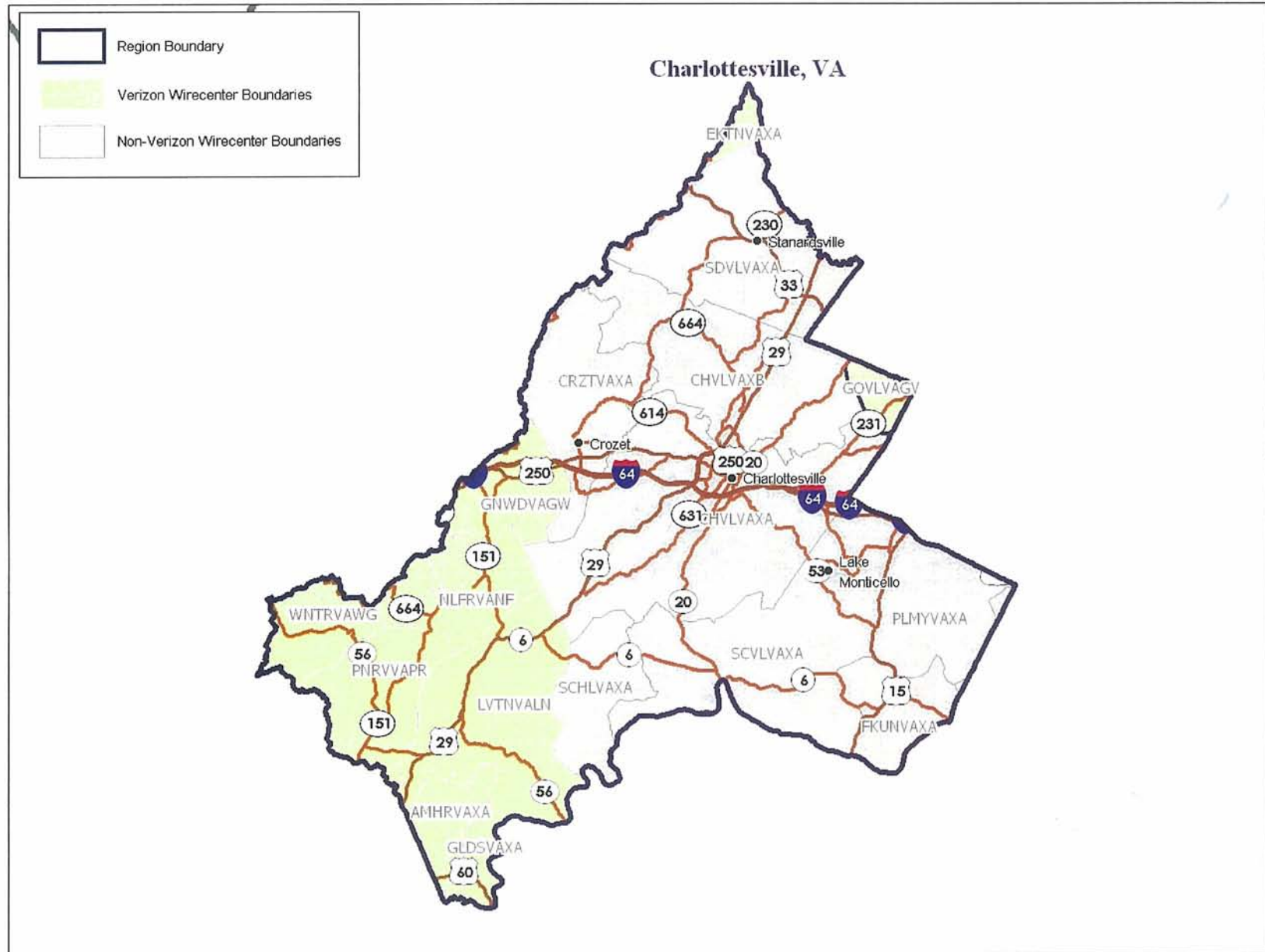
## Charlottesville MSA



## Charlottesville MSA



# Charlottesville MSA



# CHAR-2

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**COMPETITION AND POTENTIAL COMPETITION  
FOR RETAIL TELECOMMUNICATIONS SERVICES IN  
VERIZON'S CHARLOTTESVILLE MSA  
SERVICE TERRITORY**

Report of Jeffrey A. Eisenach, Ph.D.  
January 17, 2007



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## I. OVERVIEW

Verizon's service territory in the Charlottesville MSA consists of 639 square miles, with a population of 19,555 living in 8,113 households as of 2006; there are 865 business establishments.<sup>1</sup> The average population density is 31 residents per square mile, and the median household income is \$47,684.<sup>2</sup> Verizon operates six wire centers in the region.<sup>3</sup>

The Charlottesville MSA is located in the 434 area code. While the area is technically within the Charlottesville MSA, it is in fact the most rural of the 16 regions. Its largest wirecenter (Lovingston) contains only 2,084 households, and its six wire centers range in population density from 12 persons per square mile to 64 persons per square mile.<sup>4</sup> It is located primarily in Nelson County, except that the Greenwood wire center also covers a small portion of western Albemarle County south of Crozet. It is bordered on the north by Albemarle County (a service territory served by Embarq), on the southeast by Buckingham County, on the south by Appomattox County, on the southwest by the Lynchburg region and on the northwest by the Augusta County and the Northwest Region, from which it is separated by the Blue Ridge Parkway. Route 250, which continues to Waynesboro and Staunton, runs through the northern corner of the region, and Route 29 bisects the region running from northeast to southwest. The Wintergreen Resort is located in the western portion of the region.<sup>5</sup>

Given the rural nature of the region, it is not surprising that competition is not as far advanced as in more urban areas of the state. Nevertheless, competition for telecommunications services is present and growing in the Charlottesville MSA. Virtually all households and businesses have access to BLETs and OLETs from traditional CLECs and from CMRS providers. Both household and business customers already are served by providers other than Verizon. In addition, broadband services, including cable modem service, BPL service and fixed wireless broadband service, are available to the majority of households and businesses, allowing them to acquire BLETs and OLETs from stand-alone VoIP providers.

There are no barriers to entry, and the viability of entry is demonstrated by the fact that new broadband providers using BPL and fixed wireless technologies have recently begun providing next generation broadband services.

The analysis below of the availability and usage of existing alternative services, and of the conditions associated with potential competition and new entry, demonstrates that a combination of existing and potential competition regulate the prices of Verizon's retail telephone services in the Charlottesville MSA.

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1. See Exhibit CHAR-4.
  2. See *id.*
  3. See Exhibit CHAR-3.
  4. See Exhibit CHAR-4.
  5. See Exhibit CHAR-1.

## II. AVAILABILITY OF ALTERNATIVE SERVICES

All 8,113 households in the Charlottesville MSA and all 865 businesses in the Charlottesville MSA have the option to obtain alternatives to Verizon's BLETs, OLETs and Bundled Services from competitive providers. Facilities-based competition is present, and includes both traditional CLECs and cable providers, but numerous CLECs also provide services through resale and/or Wholesale Advantage agreements. Mobile telephone service is ubiquitous.

### A. Traditional CLECs<sup>6</sup>

Traditional CLECs provide competition throughout the Charlottesville MSA using resale and/or Wholesale Advantage services from Verizon.<sup>7</sup> [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

Altogether, a total of [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>11</sup>

### B. Cable Telephony

Two cable companies service the Charlottesville MSA, Comcast, which purchased Adelphia's former franchise, and Nelson Cable. Comcast's service territory includes 14.9 percent of the households, and Nelson Cable's territory includes 26.8 percent of the households.<sup>12</sup> Neither company yet offers cable telephony. However, the entire Comcast infrastructure is capable of supporting cable telephony, and Comcast has announced plans to deploy telephony over former Adelphia lines in the near future.<sup>13</sup> Nelson Cable offers cable modem service to its customers in Wintergreen. It is not known what percentage of households are covered by the upgraded infrastructure.<sup>14</sup>

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6. Here and in the remaining sections of this report, unless otherwise indicated, "traditional CLEC" refers to CLECs other than cable companies. "CLEC" refers to both traditional CLECs and cable companies.

7. See Exhibit CHAR-16.

8. See Exhibit CHAR-18.

9. See Exhibit CHAR-15.

10. See Exhibit CHAR-15.

11. See Exhibit CHAR-14.

12. See Exhibit VA-10 and Exhibit CHAR-7.

13. See Comcast, FAQ, <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3804> (last visited Dec. 3, 2006); *id* at <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3807> (last visited Dec. 3, 2006).

14. See <http://www.nelsoncable.com/index.htm> and <http://www.nelsoncable.com/modem/signup.asp>.

### **C. Mobile Telephony**

All 8,113 households in the Charlottesville MSA have access to two or more CMRS providers.<sup>15</sup> In addition to Verizon Wireless, there are seven CMRS providers offering retail telephone services in the Charlottesville MSA. They are Alltel, Cellular One, Cingular, NTELOS, Sprint, T-Mobile, and US Cellular.<sup>16</sup>

As of 2006, there are 12 cellular towers in the Charlottesville MSA.<sup>17</sup> There is at least one cellular tower located in the area served by five of the six Verizon wire centers.

### **D. Broadband and VoIP**

Increasingly, consumers are choosing to combine stand-alone broadband Internet access with VoIP services provided by “bring your own access” companies such as Vonage, thus creating their own bundles of broadband and retail telephony services. Both broadband and VoIP services are available to many Charlottesville MSA households and businesses.

Cable Modem and DSL Service: Comcast offers cable modem service throughout its service territory in the Charlottesville MSA, covering 14.6 percent of households,<sup>18</sup> and Nelson Cable offers cable modem service to its Wintergreen customers. In addition, Verizon makes “DSL service without voice available to retail customers for \$26.99 per month. Verizon provides DSL service to [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of households.<sup>19</sup>

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15. See Exhibit CHAR-12.

16. See Exhibit CHAR-11.

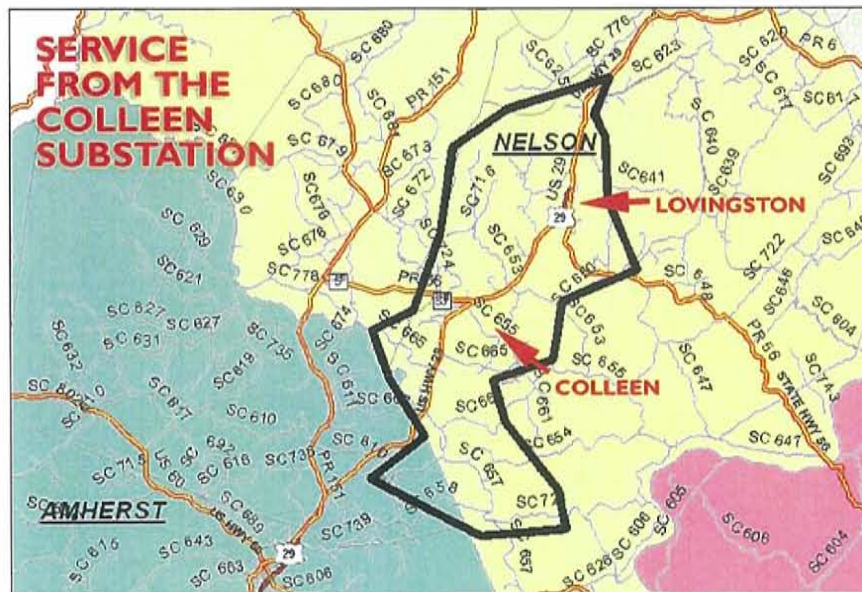
17. See Exhibit CHAR-10.

18. See Exhibit VA-10 and CHAR-8.

19. See Exhibit VA-4.

**Broadband Over Powerline:** The Central Virginia Electric Co-operative (“CVEC”) and International Broadband Electric Communications (“IBEC”) have partnered to deploy Broadband Over Powerline (“BPL”) services throughout CVEC’s service territory.<sup>20</sup> The firms currently are offering residential and business services in Nelson County in the area served by the Colleen Substation, covering 44 percent of the households in the region.<sup>21</sup> After completion of the current pilot program, the BPL Co-op expects to extend services throughout CVEC’s service territory, which includes the entire Charlottesville MSA.<sup>22</sup> Service is available to both business and residential customers for \$29.95 per month, with guaranteed symmetric access speeds of 256Kbps or faster.<sup>23</sup> IBEC’s current service territory is shown in Figure 1 below.

**Figure 1: IBEC/CVEC Service Territory in Nelson County**



**Fixed Wireless Service:** In addition to wireline cable modem, DSL and BPL service, 16 percent of households have access to fixed wireless broadband services.<sup>24</sup>

- **NTELOS:** NTELOS offers its Portable Broadband service in the northern and western portions of the region, including the portion in Albemarle County, the northwest portion of Nelson County (e.g., Nellysford) and portions of the Wintergreen Resort, covering 16 percent of all households.<sup>25</sup> NTELOS Portable Broadband service

20. BPL Co-op, <http://www.forcvec.com/bplcoop/index.html> (last visited Sep. 27, 2006).

21. See Exhibit VA-4 and Exhibit CHAR-13. See also <http://www.forcvec.com/bplcoop/where/index.html> (last visited Sep 27, 2006).

22. See <http://www.forcvec.com/bplcoop/where/index.html> (last visited Sep 27, 2006).

23. See *id.* at <http://www.forcvec.com/bplcoop/faqs/index.html> (last visited Nov. 28, 2006).

24. See Exhibit VA-4.

25. See Exhibit CHAR-13. See also NTELOS, Portable Broadband Coverage Area – Charlottesville, [http://www.ntelos.com/landline/!\\_d\\_busint3b.html#charlottesville](http://www.ntelos.com/landline/!_d_busint3b.html#charlottesville) (last visited Nov. 28, 2006).



delivers up to 1.5Mbps download and 550Kbps upload for as little as \$34.95 per month.<sup>26</sup>

While the firms discussed above do not offer bundles that include VoIP services, customers have the option of purchasing alternatives to Verizon's BLETs, OLETs and Bundled Services from by-pass VoIP companies. VoIP providers that offer telephone numbers in the 434 area code include Lingo, Net2Phone, iConnectHere, myphonecompany.com, and Minutebuster.<sup>27</sup>

#### **E. Overall Availability of Alternative Platforms and Competitors**

Looking overall at the availability of service from alternative platform providers (i.e., from mobile wireless, cable modem, DSL, facilities-based CLECs, fixed wireless and BPL), 100 percent of all households in the Charlottesville MSA have service available from at least one alternative platform provider and 76 percent have service from two or more alternative platforms.<sup>28</sup>

Similarly, looking overall at the availability of service from all competitors – i.e., the same measure as above, but counting each competitor separately (e.g., counting each CMRS provider separately), competition is even more extensive: 100 percent of households have competitive alternatives from at least two competitors, and 57 percent have access to service from five or more Verizon competitors.<sup>29</sup>

### **III. USAGE OF ALTERNATIVE SERVICES**

Verizon's internal data shows that at least [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of wireline telephone lines in the Charlottesville region were being served by competitors as of March 2006. However, these figures understate the true market share of competitors, since they fail to account for intermodal competition, such as from wireless and broadband.

Survey data indicates that [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL] of households subscribe to broadband. Taking intermodal competition into account, the data presented below show that Verizon voice lines now account for only 46.4 percent of all wireline telephony, wireless telephony and broadband connections in the region.

Time series data presented at the end of this section also shows that Verizon's wireline market share is falling, both in proportion to the number of wirelines served and relative to the number of households in the region. Taken together, the data presented in detail below

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26. See *id.* at <http://www.ntelos.com/landline/residential/portablebroadband.html> (last visited Nov. 28, 2006).

27. See West Testimony at 81.

28. See Exhibit VA-4 and Exhibit CHAR-5.

29. See Exhibit VA-5 and Exhibit CHAR-6.

30. This figure does not include approximately six percent of the population (who by definition were not reached through Verizon's telephone survey) who have cut the cord altogether. See West Testimony at p. 63, n. 84.

demonstrates that the competitive alternatives described in Section II represent viable alternatives for Verizon's BLETS, OLETS and Bundled Services in the Charlottesville region, since customers are actually switching to them in large numbers.

**A. Traditional CLECs and Cable Telephony**

As detailed in Exhibit CHAR-15, a total of [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>32</sup>

These figures are consistent with the survey data presented by Mr. Newman, which shows that [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of residential customers in the Charlottesville MSA are using providers other than Verizon.<sup>33</sup> In rural regions (including the Charlottesville MSA), the survey data shows that 7.2 percent of POTS business customers and 10.1 percent of all business customers are using other providers.<sup>34</sup>

Exhibit CHAR-15 also demonstrates that wireline alternatives are available throughout the Charlottesville MSA. It shows that competitors are actually serving both business and residential customers in [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of the six wire centers in the Charlottesville MSA, including the smallest and most rural wire centers.<sup>35</sup> These data demonstrate that alternatives to Verizon's BLETS, OLETS and Bundled Services from wireline competitors are available and in use by both residential and enterprise customers throughout the Charlottesville MSA.

**B. Mobile Telephony**

The survey data presented by Mr. Newman show that [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of households in the Charlottesville MSA purchase telephone service from mobile telephone companies.<sup>36</sup> Moreover, [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>37</sup>

While Mr. Newman's testimony does not provide data on business usage of mobile telephones specifically for the Charlottesville MSA, it does indicate that the proportion of businesses in rural regions (including the Charlottesville MSA) which purchase mobile telephone

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31. See Exhibit CHAR-15.

32. See Exhibit CHAR-19.

33. See Exhibit VA-21.

34. See Exhibit VA-20.

35. See Exhibit CHAR-15.

36. See Exhibit VA-21.

37. See *id.*

service is 49.2 percent, and that 12.7 percent of business respondents consider their mobile telephone to be their primary means of voice communication.<sup>38</sup>

These figures do not include mobile telephone customers who have dropped their wireline service altogether, as these customers were not eligible for the telephone survey. As Mr. West's testimony indicates, national estimates suggest that approximately six percent of residential customers have "cut the cord."<sup>39</sup>

Again, these figures demonstrate that the mobile wireless alternatives available to consumers in the Charlottesville MSA function as actual, viable alternatives to Verizon's BLETS, OLETS and Bundled Services.

### **C. Broadband and VoIP**

The survey data presented by Mr. Newman show that [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>40</sup>

The survey data presented by Mr. Newman show that in rural regions in Virginia (including the Charlottesville region), 48.5 percent of businesses subscribe to high-speed broadband service.<sup>41</sup>

These overall usage rates for broadband demonstrate that the broadband plus VoIP "build your own bundle" option is available today to residences and businesses in the Charlottesville MSA that already subscribe to broadband service.

### **D. Overall Penetration of Wireline and Intermodal Competition**

While it is not possible to estimate precisely the number of lines Verizon has lost to wireline and intermodal competitors, it is clear that competition is having an impact on Verizon's market share, both in terms of wireline telephony and the overall markets for BLETS, OLETS and bundled services, and that wireline competitors are winning a growing proportion of customers. The data also indicate that intermodal competitors are winning a growing proportion of customers from wireline carriers of all types (i.e., including both Verizon and the traditional CLECs and cable telephony providers).

Both Verizon's line count and its wireline market share in the Charlottesville MSA are dropping. As indicated in Figure 2 below, between December 2003 and March 2006 (i.e., in 27 months), the ratio of Verizon lines to households fell from [BEGIN CONFIDENTIAL]

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38. See Exhibit VA-20.

39. See West Testimony at 64.

40. See Exhibit VA-21.

41. See Exhibit VA-20.

42. See Exhibit CHAR-19 and Exhibit CHAR-4.



[END CONFIDENTIAL]<sup>43</sup>

During this same 27-month period, the number of residential wirelines served by wireline CLECs rose by [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>45</sup>

Figure 2 also demonstrates the significance of intermodal competition from wireless telephony and from broadband plus VoIP “build your own” bundles. It shows that the ratio of combined Verizon and CLEC residential lines to households fell from [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]<sup>46</sup> Assuming people have not stopped using voice telephony altogether, these data clearly indicate that wireless and broadband providers are competing effectively with both Verizon and other traditional wireline providers – a conclusion which is consistent with the high rates of wireless telephony usage and broadband adoption discussed above.

[BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

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43. *See id.*

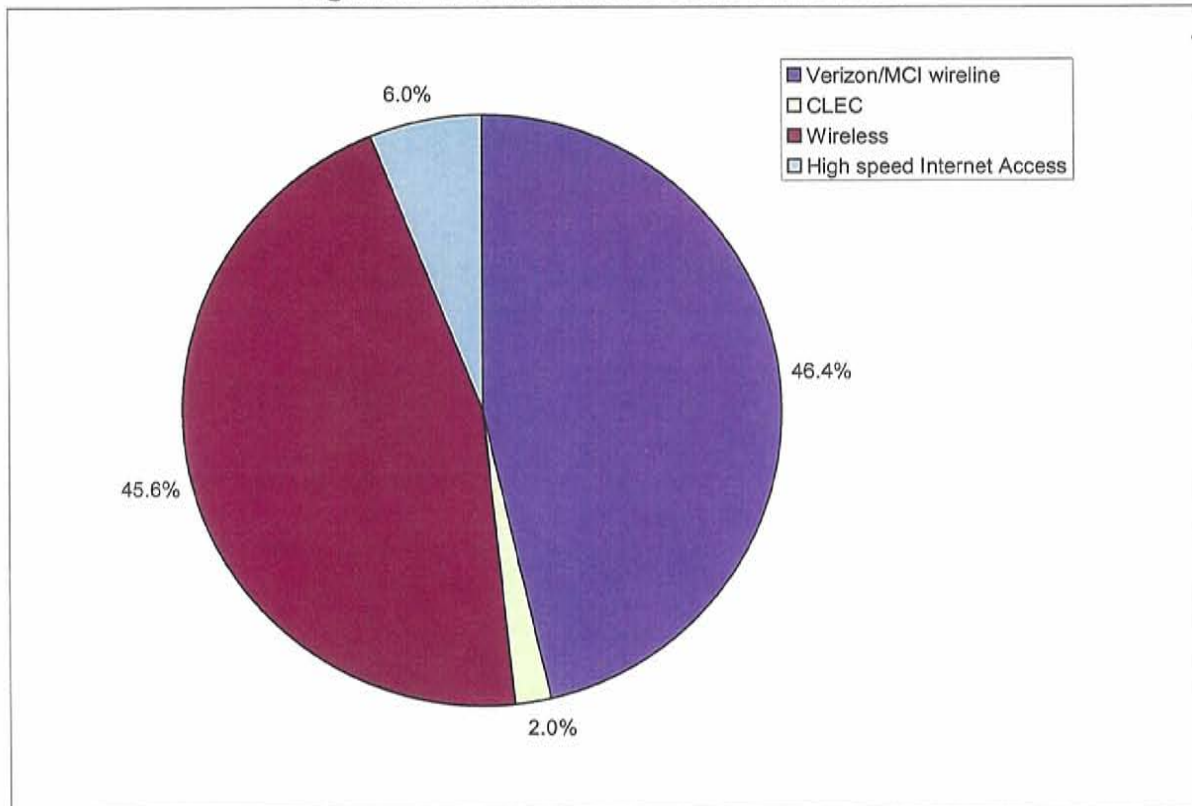
44. *See id.*

45. *See id.*

46. *See id.*

Another perspective on Verizon's loss of overall share is shown in Figure 3 below, which shows the percentage of total connections – including wireline telephony, wireless telephony and broadband connections – served by Verizon voice lines, based on the survey conducted by Mr. Newman. As the figure shows, Verizon voice lines now account for only 46.4 percent of all wireline telephony, wireless telephony and broadband connections.<sup>47</sup>

**Figure 3: Verizon Share of Total Connections**



#### **IV. POTENTIAL COMPETITION AND ENTRY**

While competition from CLECs using resale and/or Wholesale Advantage services, from CMRS providers, from wireless broadband providers and from the CVEC BPL system, though present, is at its early stages in the Charlottesville MSA, the potential for additional competition is also evident.

First, the BPL Co-op has already announced its intention to provide service throughout Verizon's service territory in the Charlottesville MSA. Because CVEC, as the incumbent provider of electricity, already passes 100 percent of the homes and businesses in the area, the costs of deploying the service beyond its current footprint is low. Its next deployment, in the Martin's Store substation, will pass an additional 2,600 households, or 32 percent, bringing the

47. See Exhibit VA-22.

overall deployment to 3,600 households, or 45 percent of all households. In addition, the company announced in September 2006 that “IBEC is currently working on the buildout plan for the entire CVEC distribution system and plans to move around the entire system, working on 2-3 substations at one time to ensure that all members have an equal opportunity to receive broadband over powerline service.”<sup>48</sup>

Similarly, both cable providers are well positioned to expand their service offerings. As previously noted, Comcast has stated its intention to roll out cable telephony over the former Adelphia service territory.<sup>49</sup> Once the rollout is complete, approximately 15 percent of all households in the Charlottesville MSA will have access to cable telephony.<sup>50</sup> While Nelson Cable has not made any formal announcements regarding upgrades to its system, the costs of upgrading to cable telephony are, as noted in Mr. West’s testimony, both low and falling.

CLECs are well positioned to rapidly expand their services in the Charlottesville MSA. Non-facilities based companies, which provide services using resale and/or Wholesale Advantage services purchased from Verizon, are completely unconstrained in their ability to expand services. In the event of a price increase by Verizon, these companies could and would accommodate customers wishing to switch away from Verizon’s services.

Facilities-based companies are also well-positioned to expand their offerings. NTELOS, for example, is continuing to expand the service territory for its Portable Broadband service, and is the incumbent provider in neighboring Augusta County, where it serves the Waynesboro area.<sup>51</sup> NTELOS was the successful bidder for additional spectrum in the Charlottesville MSA in the recent AWS auction.<sup>52</sup>

More broadly, barriers to entry in the Charlottesville MSA are low. There are already seven CMRS providers serving the Charlottesville MSA, and the widespread presence of cell towers throughout the region (there are towers in five of the six wire center areas) means that the mobile and fixed wireless entry is inexpensive. Finally, 100 percent of the land area is rural, and thus potentially eligible for funding from the Rural Utilities Service (RUS). As noted above, the BPL Co-Op has already benefited from a \$19.2 million RUS loan to fund deployment of BPL in Nelson County.

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48. BPL Co-op, BPL Project Update, <http://www.forcvec.com/bplcoop/Update%20Page.html> (last viewed Dec. 3, 2006).

49. See West Testimony at 42; See also Comcast, FAQ, <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3804> (last visited Dec. 3, 2006) and <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3807> (last visited Dec. 3, 2006).

50. See Exhibit VA-10.

51. See NTELOS, Portable Broadband, <http://www.ntelos.com/landline/residential/portablebroadband.html> (last visited Nov. 22, 2006).

52. See FCC, Auction 66 – Advanced Wireless Services (AWS -1), available at [http://wireless.fcc.gov/auctions/default.htm?job=auction\\_summary&id=66](http://wireless.fcc.gov/auctions/default.htm?job=auction_summary&id=66) (last visited Nov. 21, 2006).

## V. CONCLUSION

Both residential and business consumers have multiple alternatives to Verizon's retail telephone services in the Charlottesville MSA. Verizon is already losing customers to traditional CLECs and intermodal competitors, and this decline is taking place *at current prices*. Two potential competitors, Comcast and CVEC, have actually announced plans to deploy retail telephony and/or broadband service. If Verizon were to raise prices above competitive levels, it would both accelerate the rate at which it is losing customers to existing competitive services,<sup>53</sup> and increase the rate at which competitors and potential competitors deploy new services in the market. The availability of options already in the region, the announced intentions of actual competitors to expand their services, and the potential for additional competition are adequate to regulate the price of Verizon's retail telephone services in this region.

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53. An analysis conducted by Mr. Taylor estimates that a decision by Verizon to raise prices by 5 percent in the Charlottesville MSA would result in a *net* revenue loss of [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] annually. See Taylor Testimony, Table 14 at 94.

# CHAR-3

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### Wire Centers by Rate Group, Exchange, City and County

REGION	LOC ST	WIRECENTER	LOCATION NAME	Rate Group	Exchange	CENTRAL OFFICE CITY	COUNTY
CHARLOTTESVILLE, VA	VA-E	GNWDVAGW	GREENWOOD VA	06	GREENWOOD	GREENWOOD	Albemarle
		LVTNVALN	LOVINGSTON VA	07	LOVINGSTON	LOVINGSTON	Nelson
		NLFRVANF	NELLYSFORD VA	07	LOVINGSTON	NELLYSFORD	Nelson
		PNRVVAPR	PINEY RIVER VA	07	PINEY RIVER	PINEY RIVER	Nelson
		WNTRVAWG	WINTERGREEN VA	07	LOVINGSTON	WINTERGREEN	Nelson
	VA-S	GLDSVAXA	GLADSTONE	09	GLADSTONE	GLADSTONE	Nelson

# CHAR-4

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**CONFIDENTIAL**  
**EXHIBIT** CHAR-4



# CHAR-5

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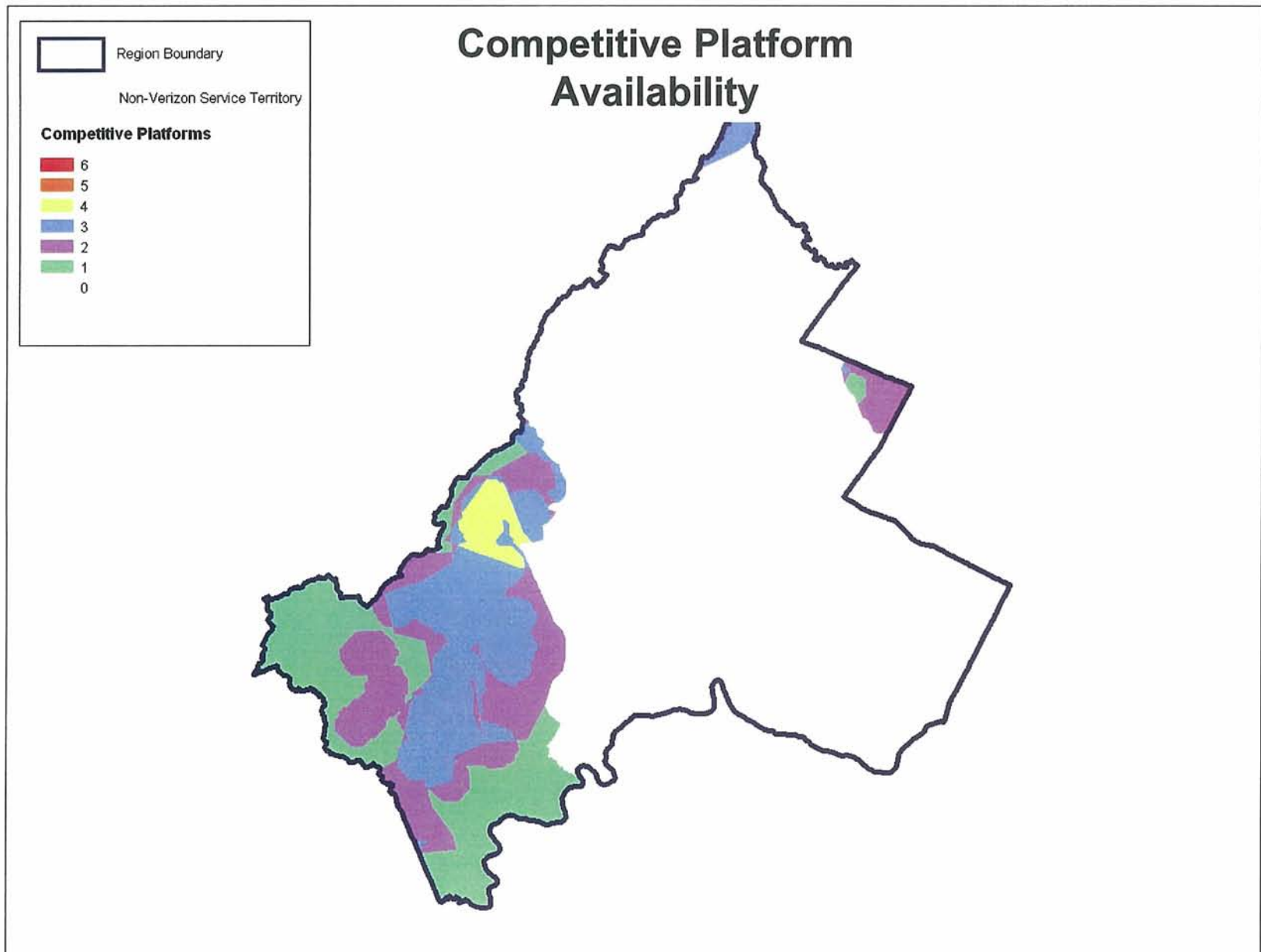
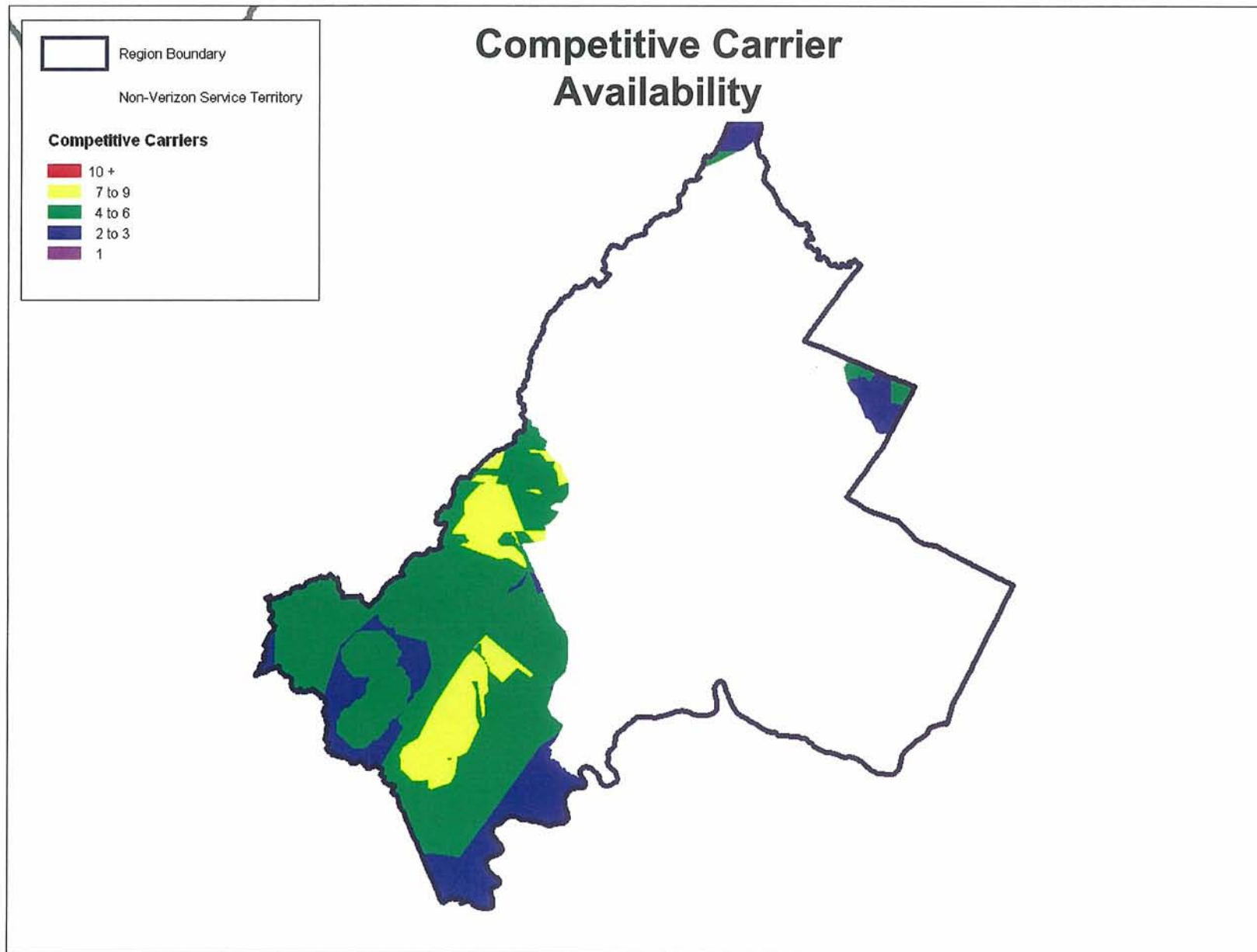


Exhibit CHAR-5

# CHAR-6

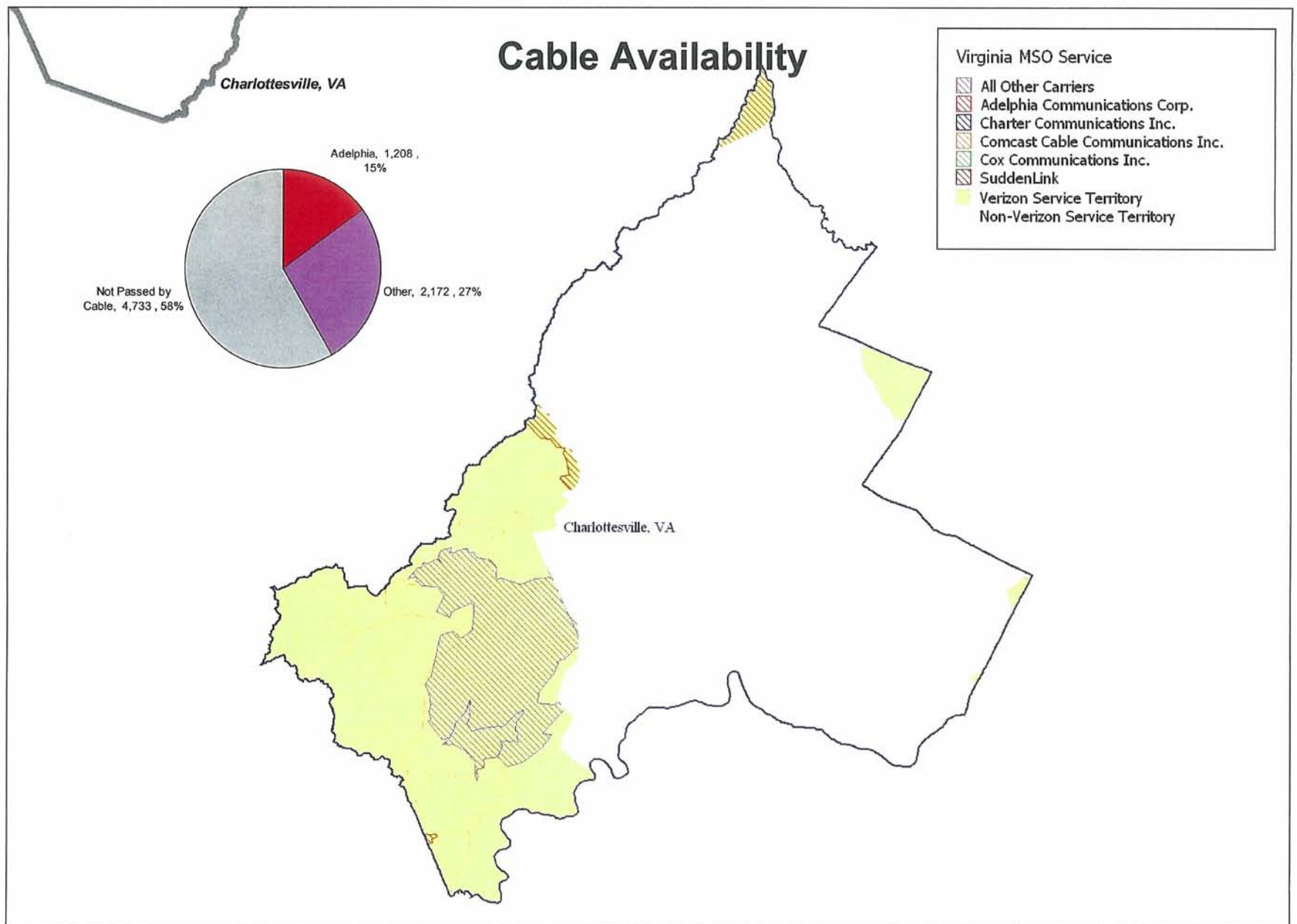
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**Exhibit CHAR-6**

**CHAR-7**

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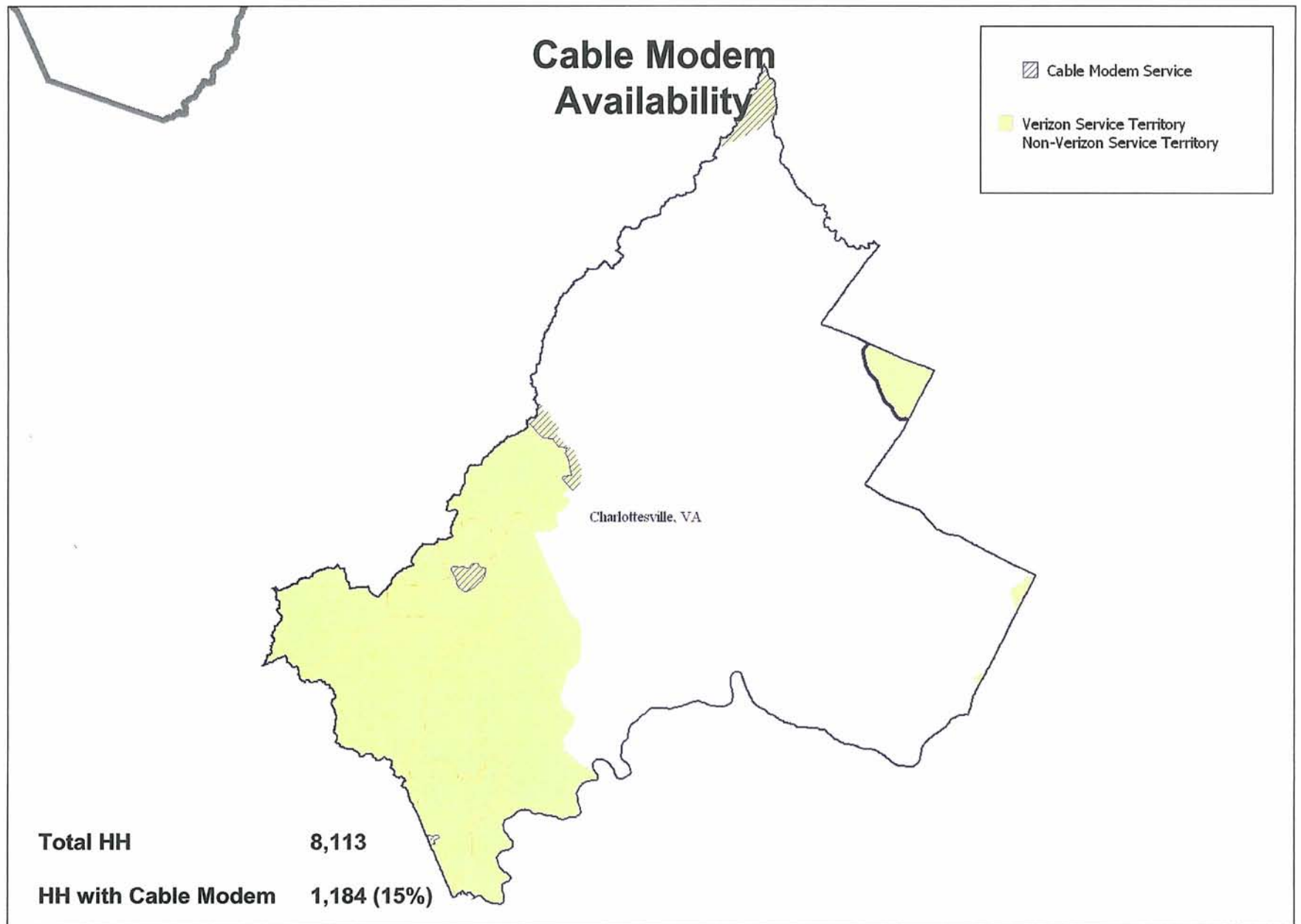


**Exhibit CHAR-7**

Note: HH numbers reflect only those households in Verizon's Service Territory

# CHAR-8

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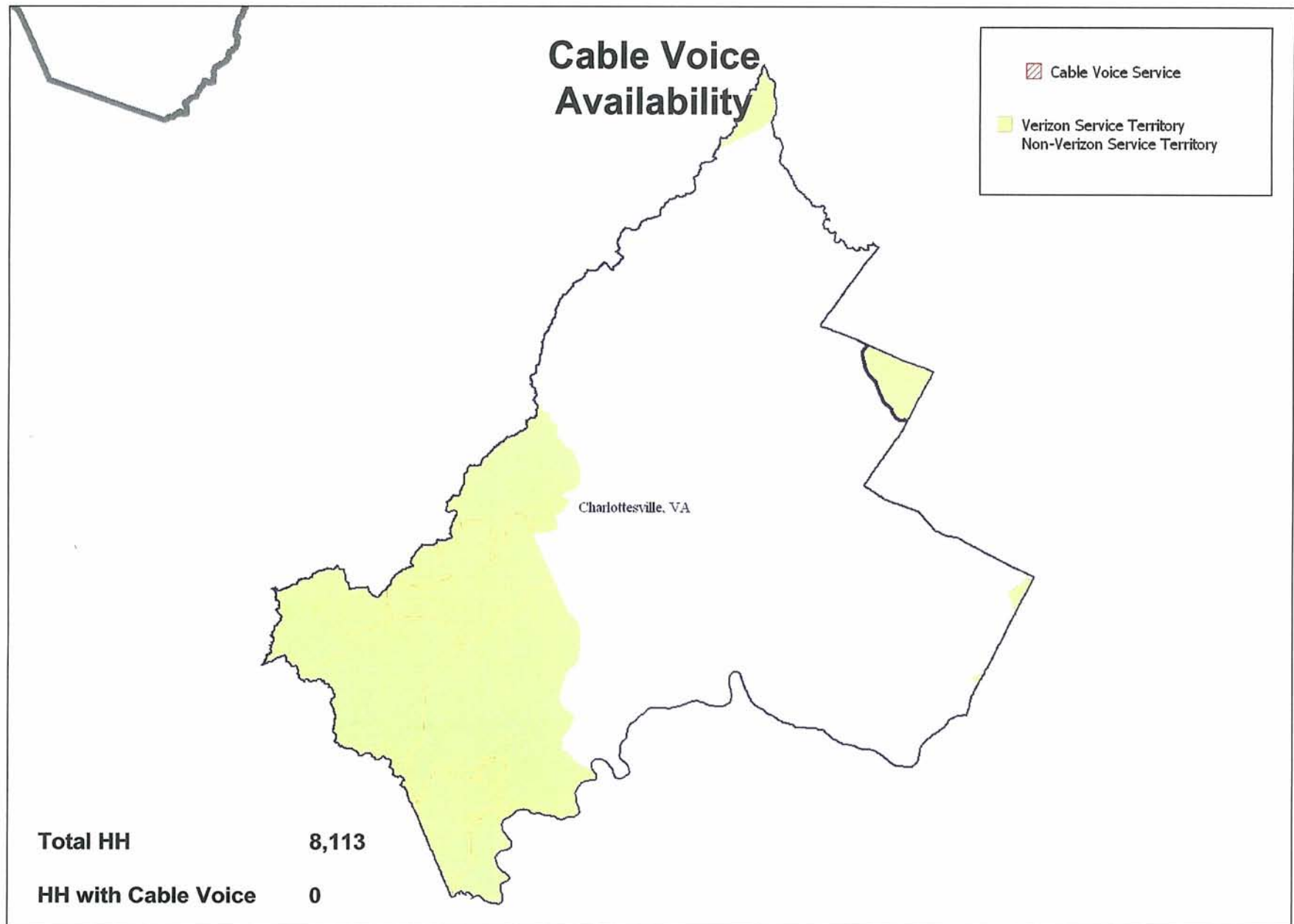
**Exhibit CHAR-8**

Note: HH numbers reflect only those households in Verizon's Service Territory



# CHAR-9

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**Exhibit CHAR-9**

Note: HH numbers reflect only those households in Verizon's Service Territory

# CHAR-10

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## Wireless Tower Locations by Year Constructed

FCC Tower Data  
by Year Constructed

2004 or Newer	(3)
2003	(1)
2002	(0)
2001	(1)
2000	(1)
Prior to 2000	(6)

Verizon Service Territory  
Non-Verizon Service Territory

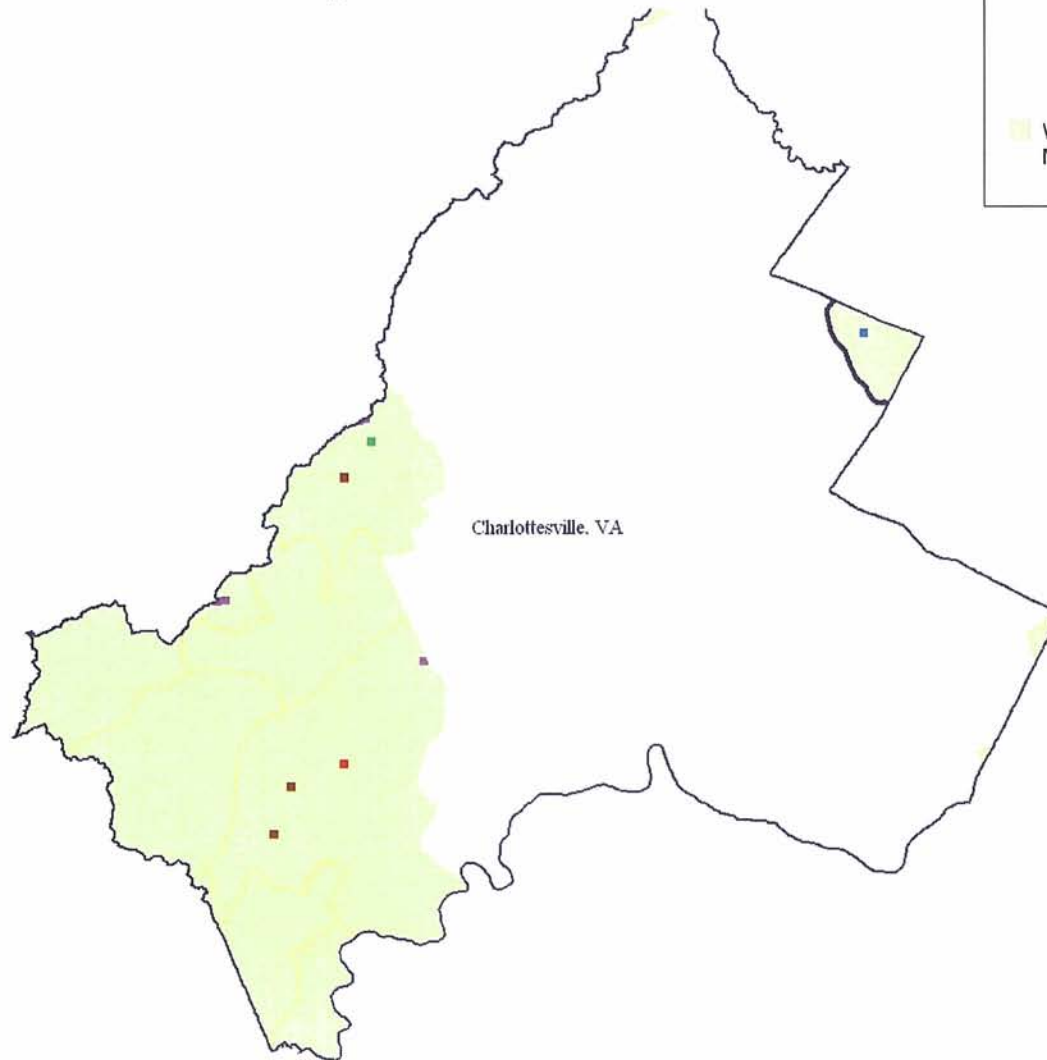
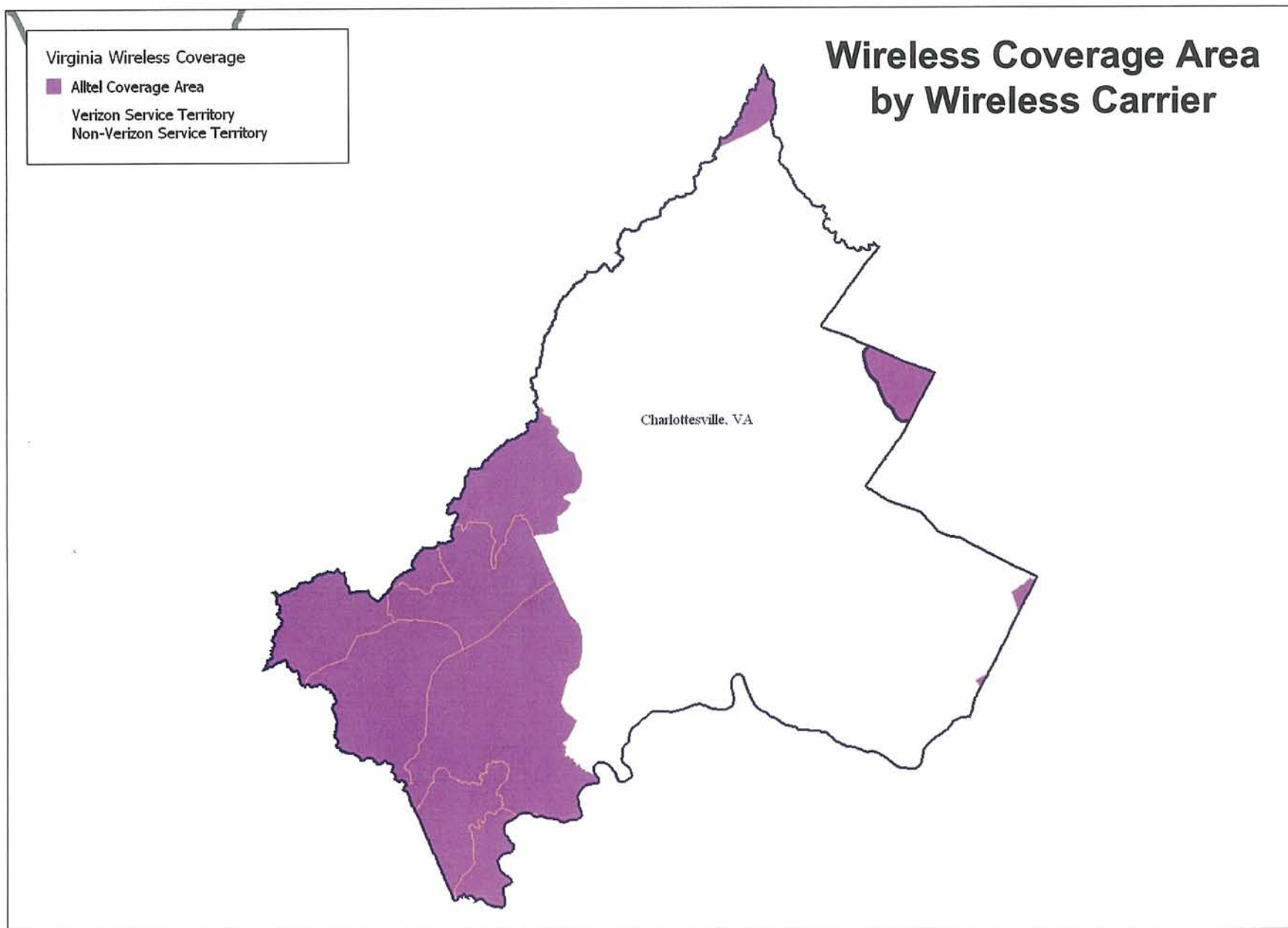


Exhibit CHAR-10

# CHAR-11

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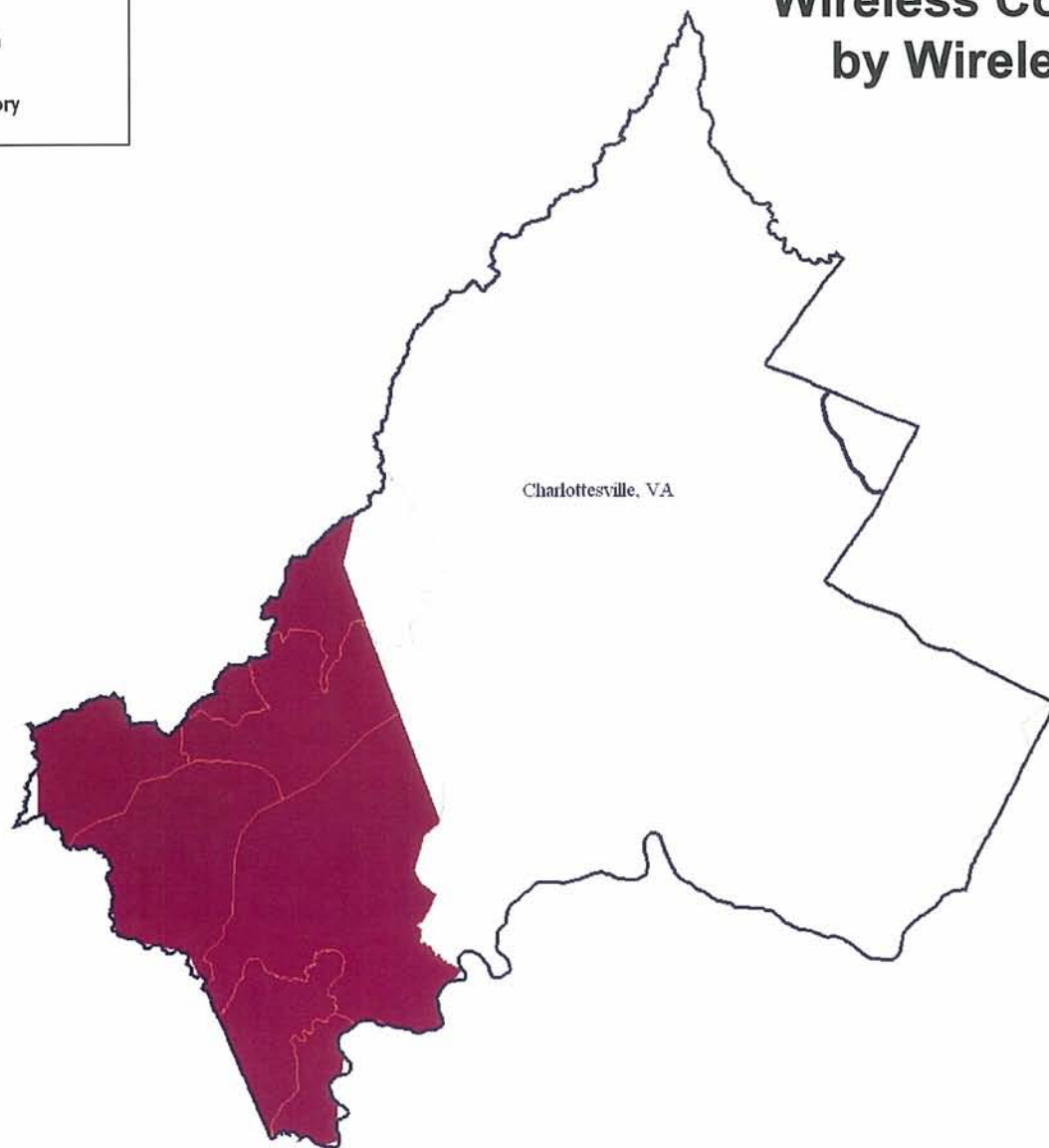
Virginia Wireless Coverage

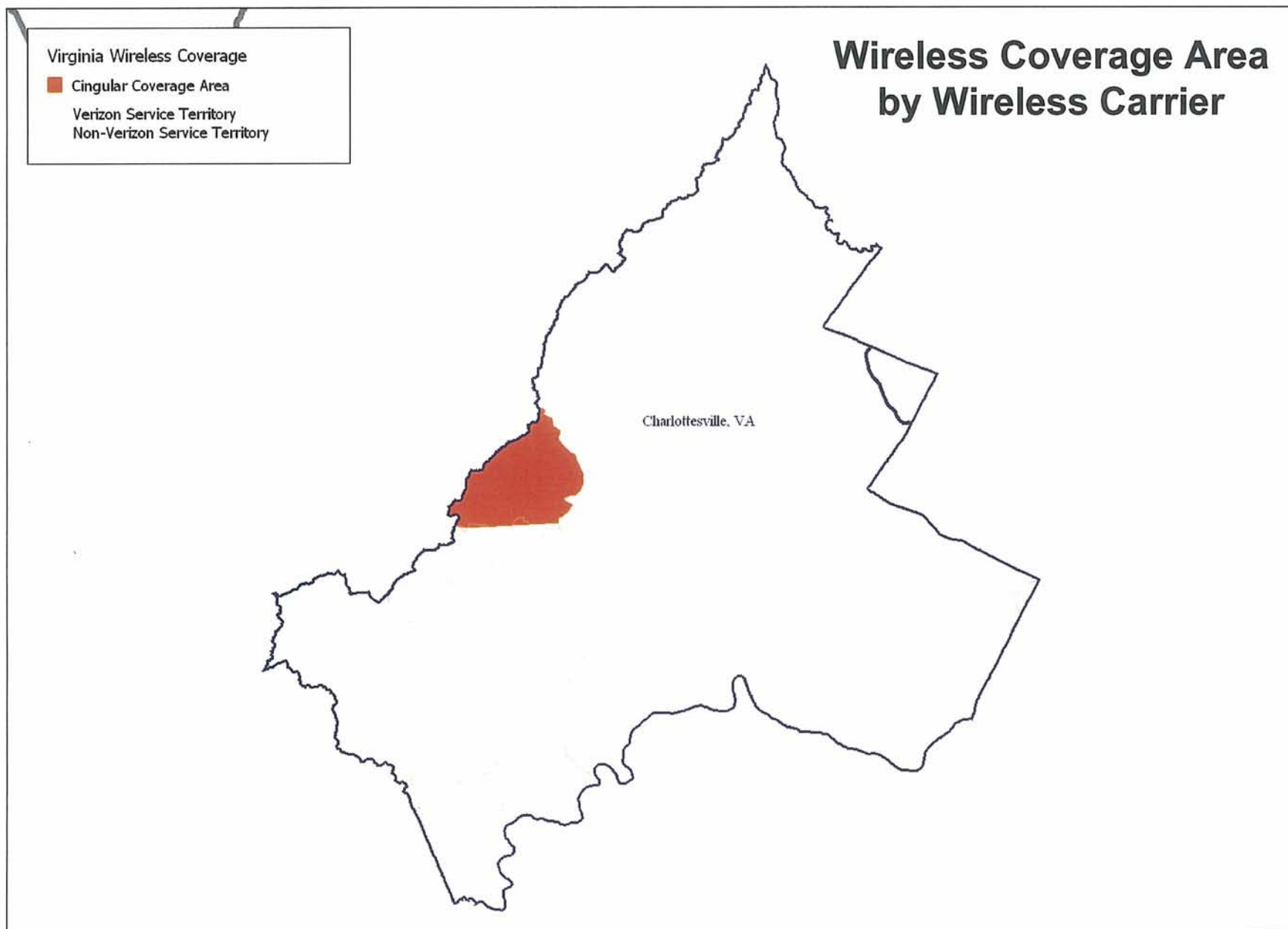
■ Cellular One Coverage Area

Verizon Service Territory

Non-Verizon Service Territory

## Wireless Coverage Area by Wireless Carrier

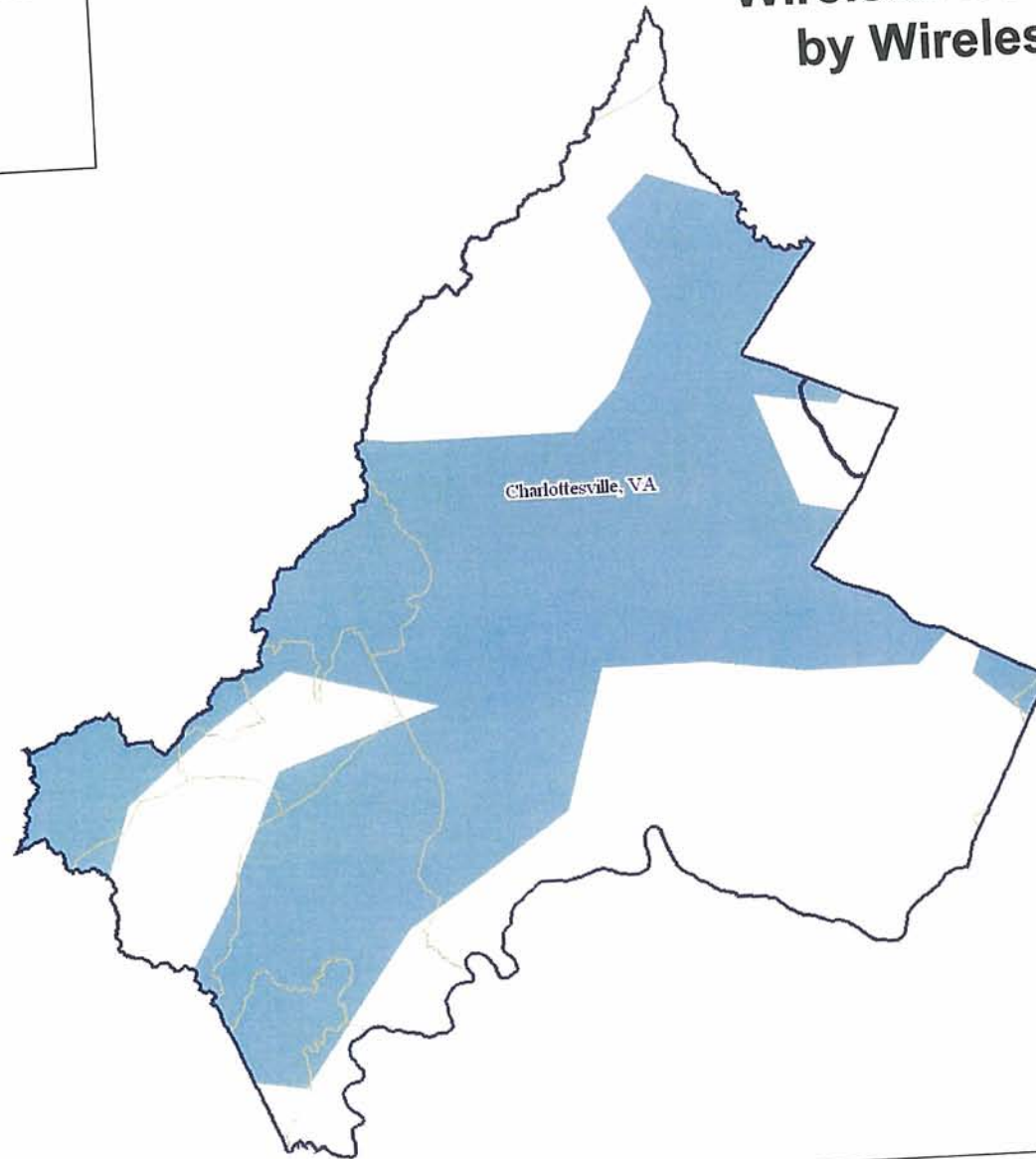


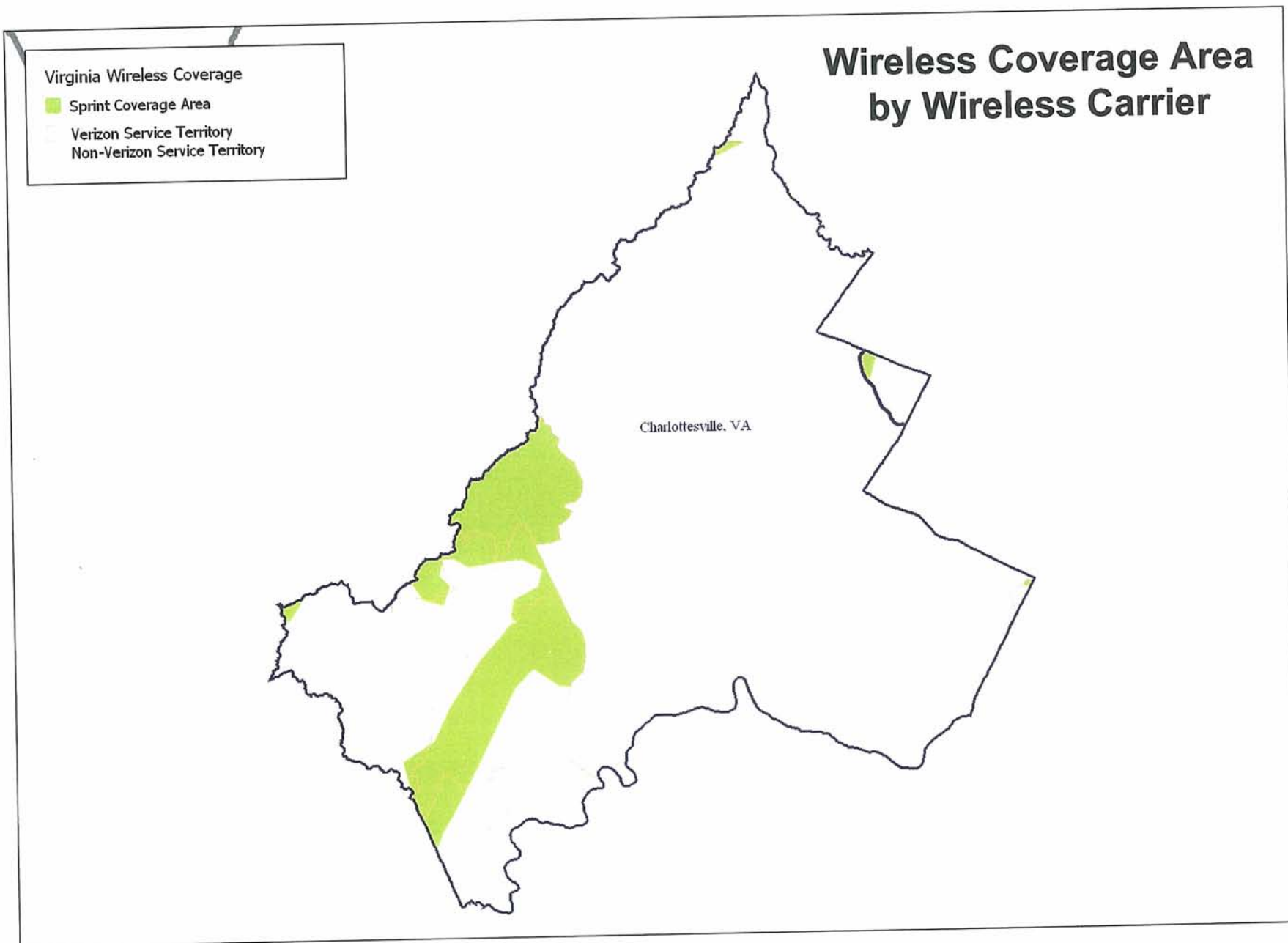


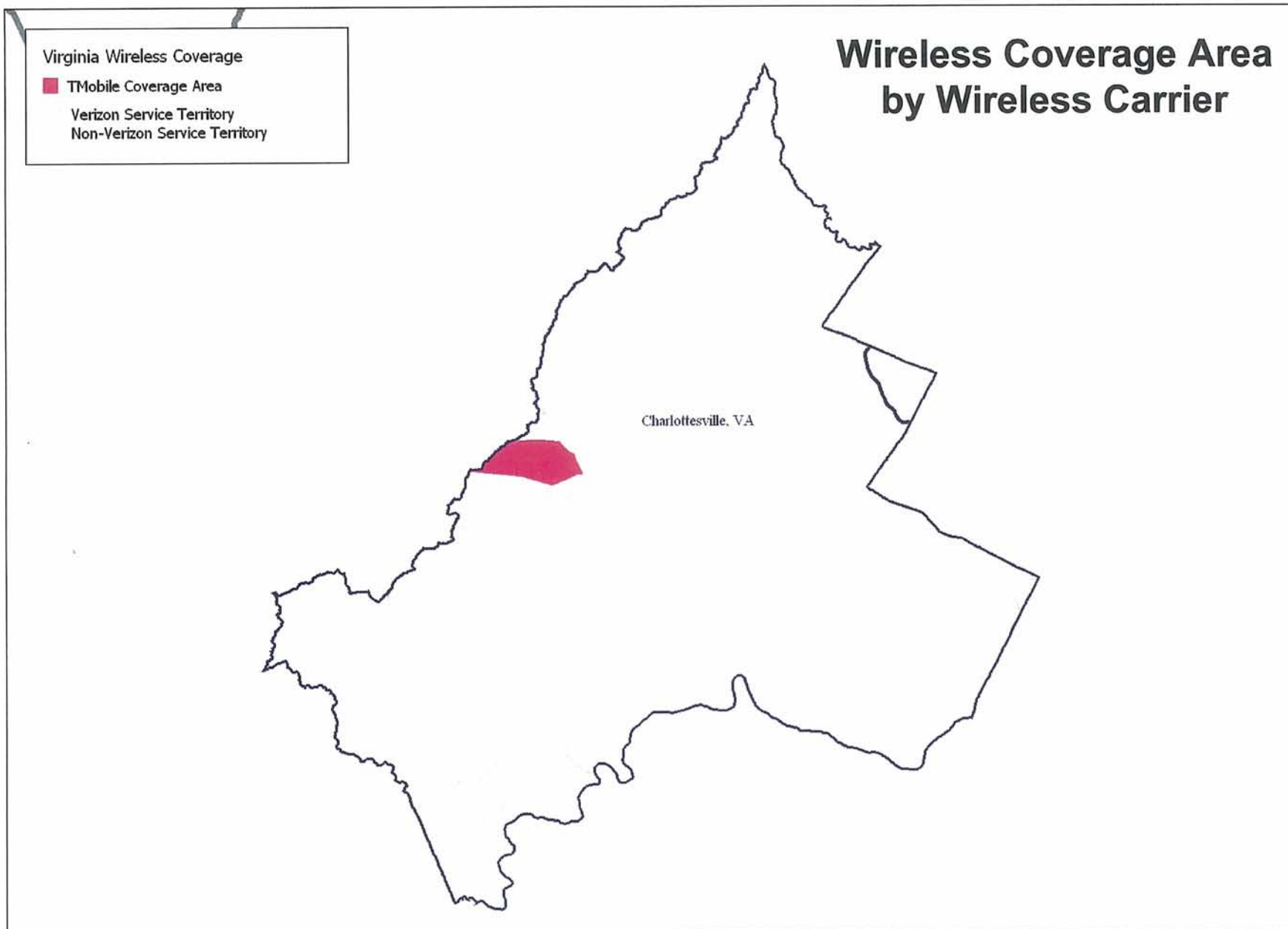


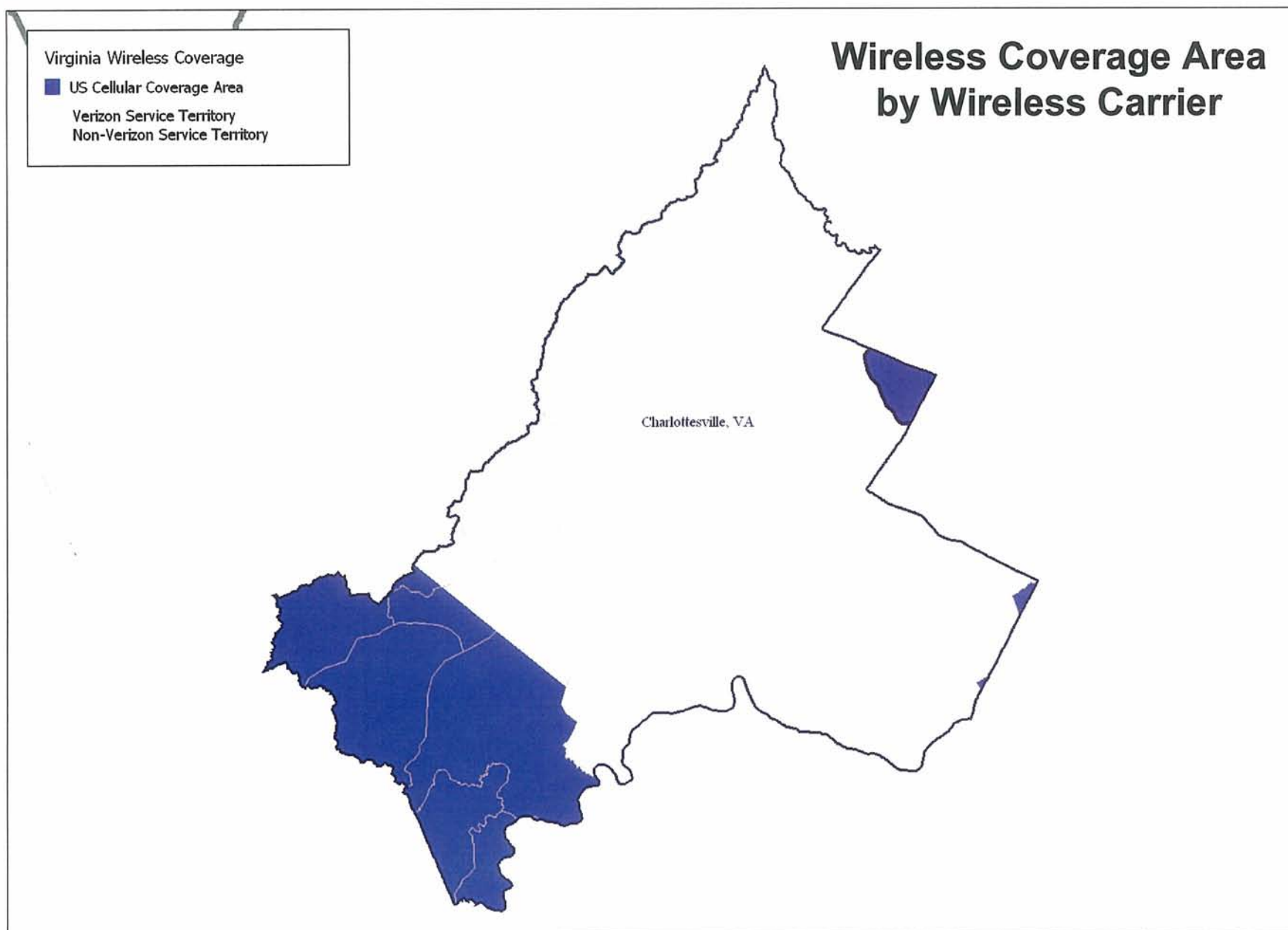
## Wireless Coverage Area by Wireless Carrier

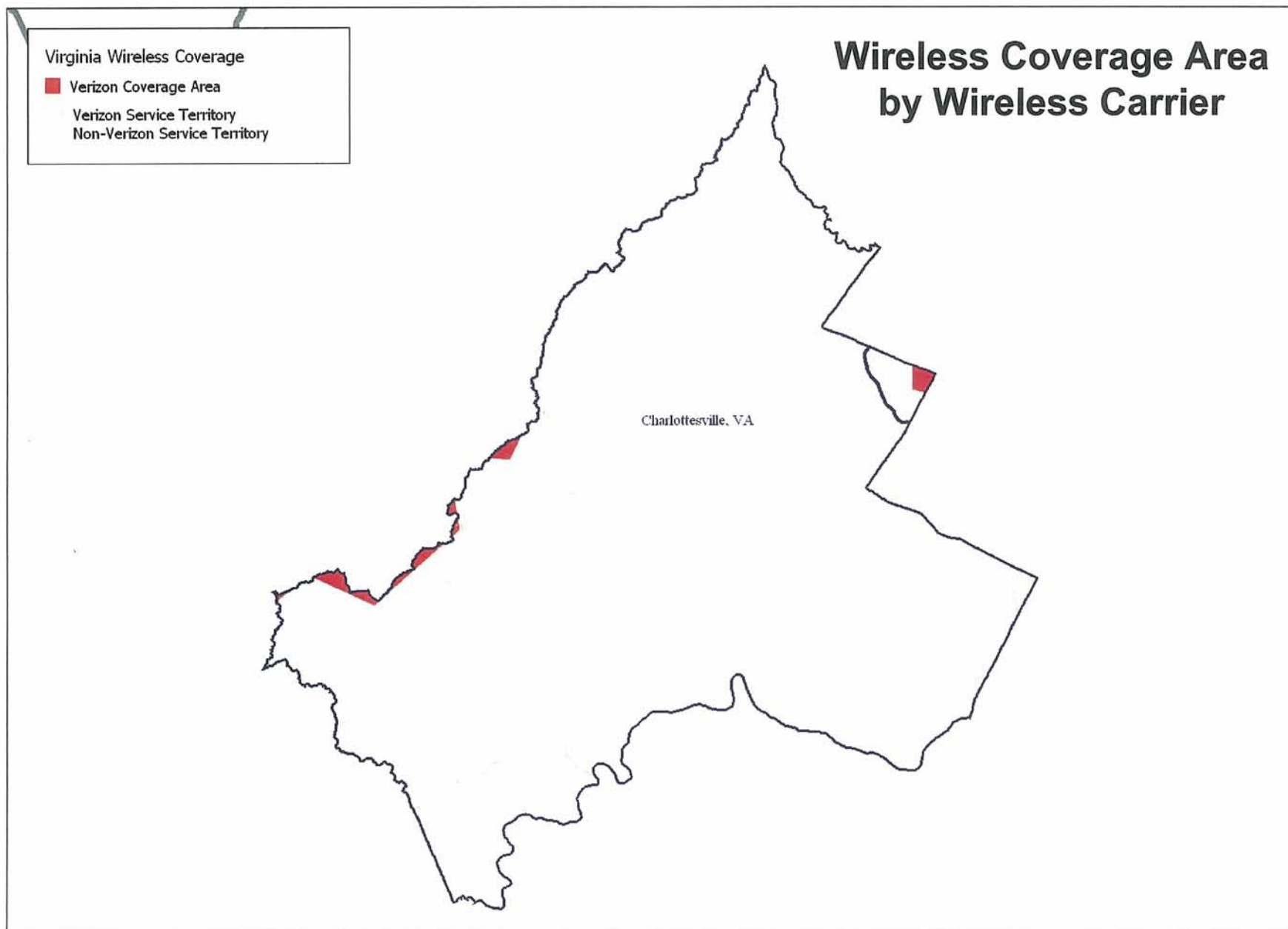
Virginia Wireless Coverage  
■ nTelos Coverage Area  
Verizon Service Territory  
Non-Verizon Service Territory









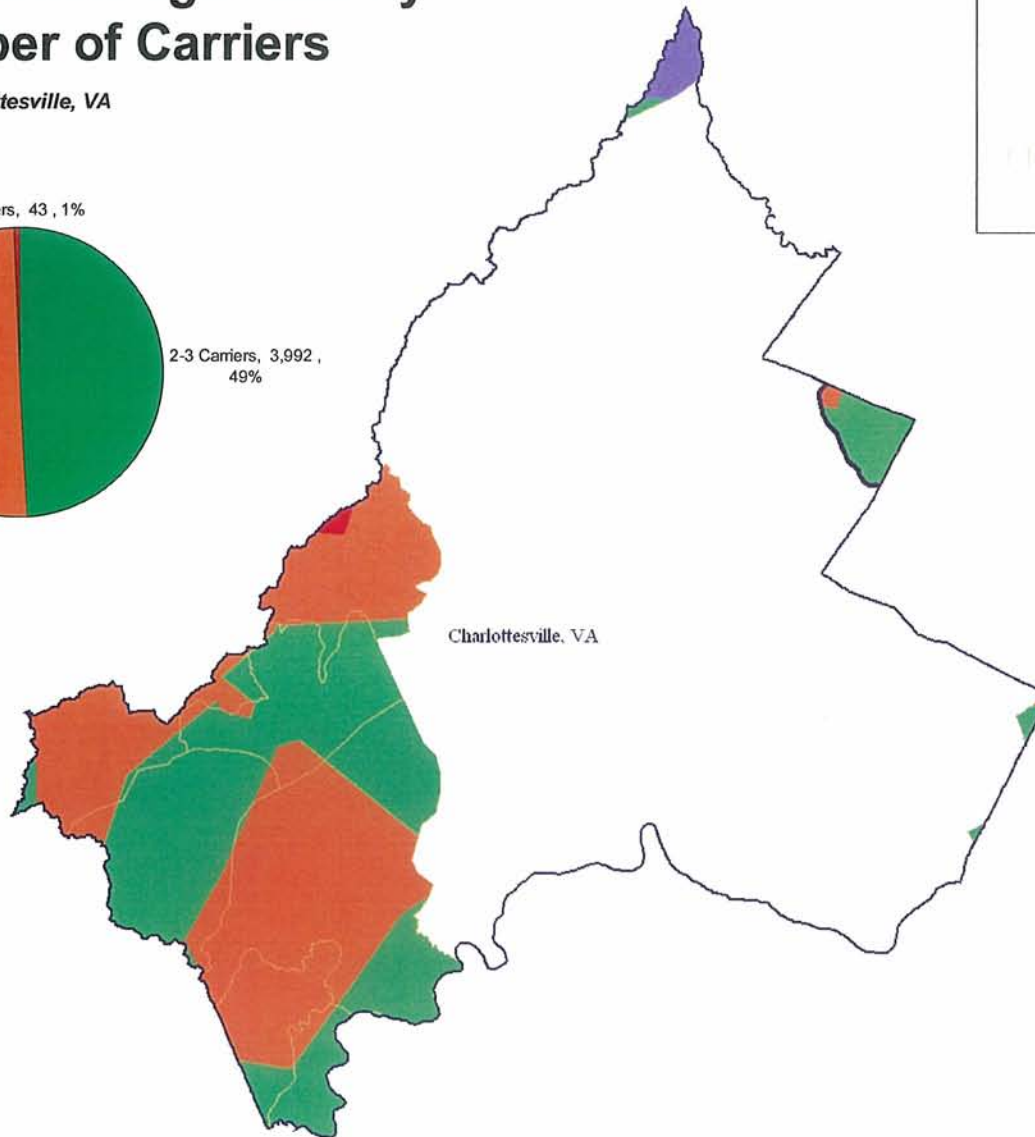
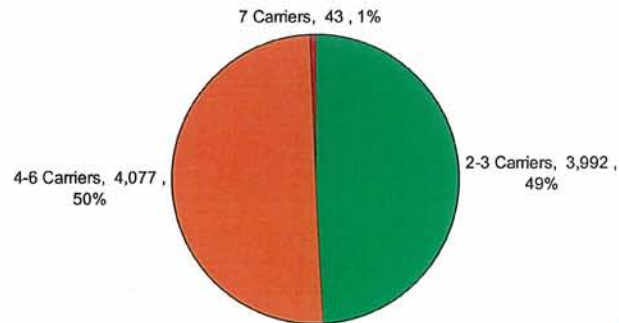


# CHAR-12

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# Wireless Coverage Area by Number of Carriers

Charlottesville, VA



Virginia Wireless Coverage by Number of Carriers



Verizon Service Territory  
Non-Verizon Service Territory

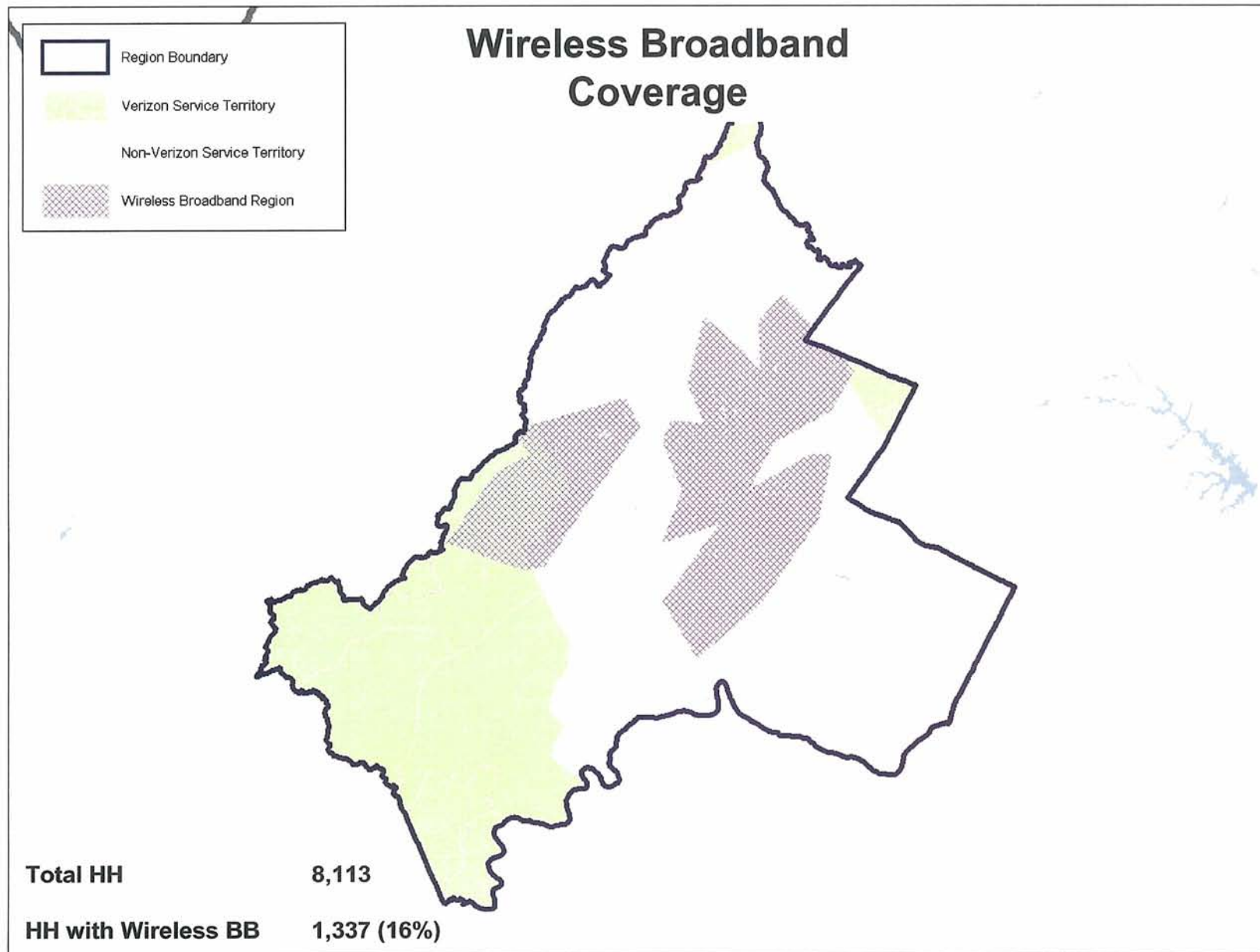
Exhibit CHAR-12

Note: HH numbers reflect only those households in Verizon's Service Territory

# CHAR-13

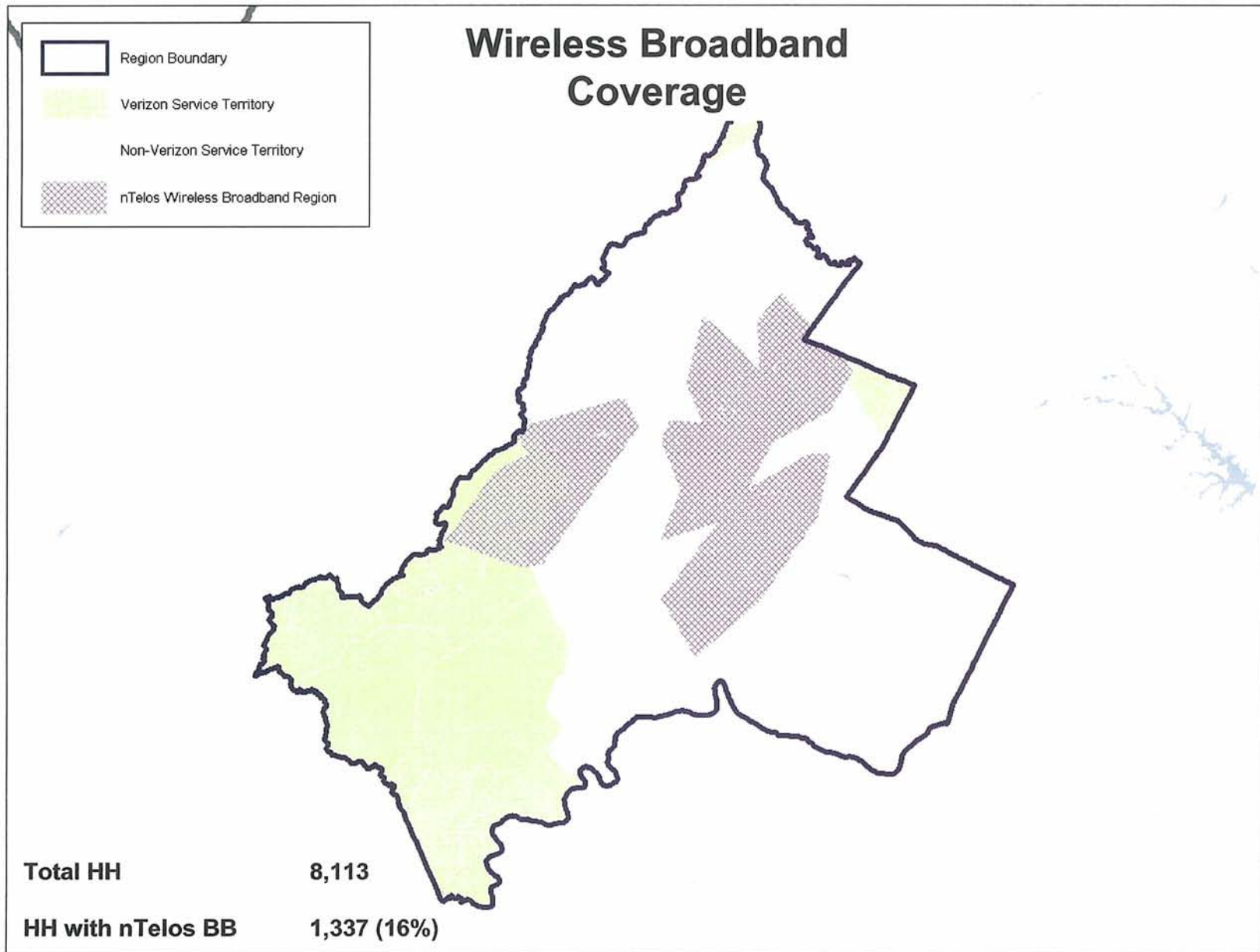
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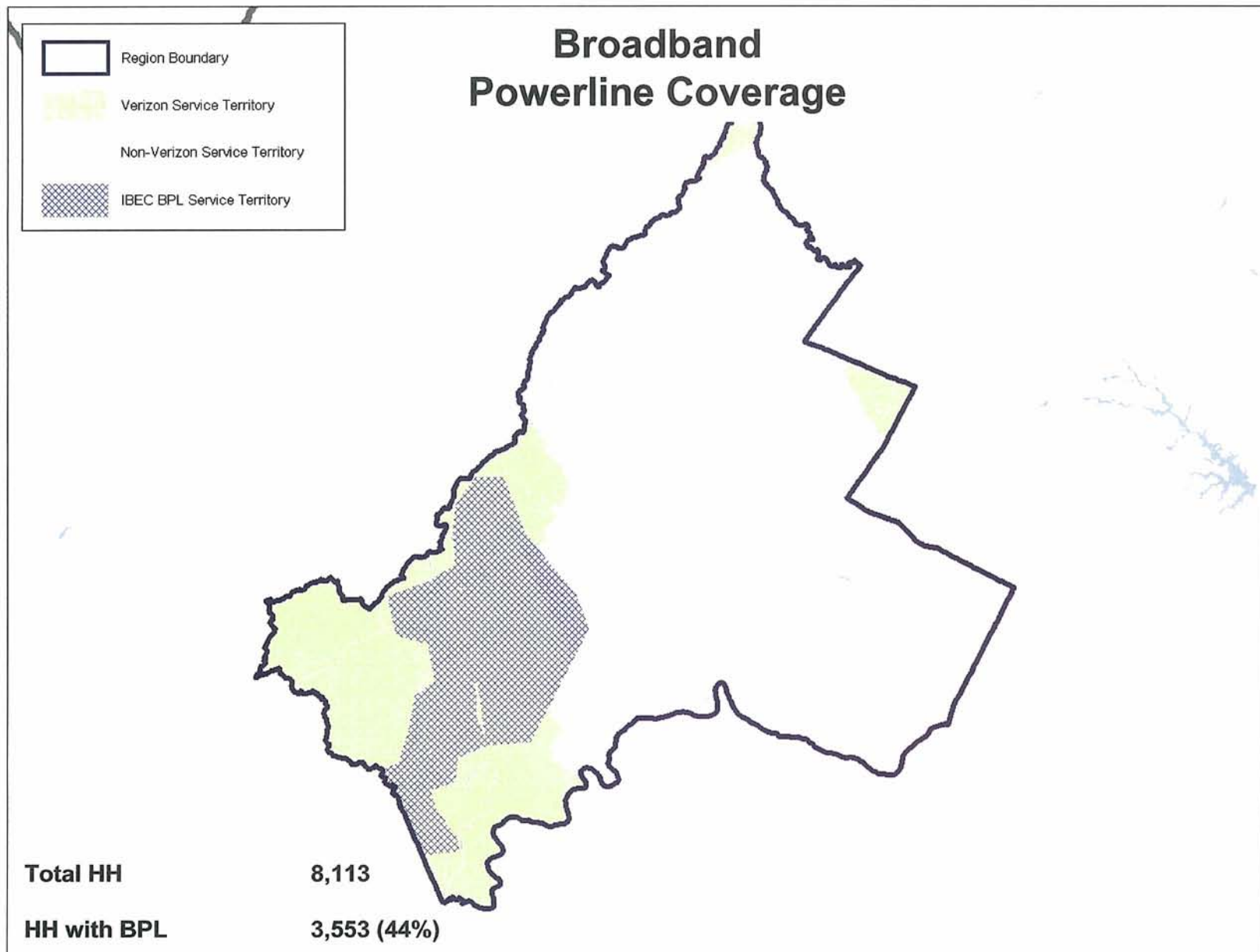


**Exhibit CHAR-13, page 1 of 3**

Note: HH numbers reflect only those households in Verizon's Service Territory



**Exhibit CHAR-13, page 2 of 3**



Note: HH numbers reflect only those households in Verizon's Service Territory

# CHAR-14

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**CONFIDENTIAL**  
EXHIBIT CHAR-14

**CHAR-15**

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**CONFIDENTIAL**  
**EXHIBIT** CHAR 15

**CHAR-16**

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**CONFIDENTIAL**  
**EXHIBIT** CHAR-16

# CHAR-17

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**CONFIDENTIAL**  
**EXHIBIT** CHAR 17

**CONFIDENTIAL**  
EXHIBIT CHAR-18

**CHAR-19**

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**CONFIDENTIAL**  
**EXHIBIT** CHAR19